	Application No.	Applicant(s)
Notice of Allowability	09/838,266	HIGASHIKATA ET AL.
	Examiner	Art Unit
	Jerome Grant II	2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the 2-16-05 (Amendment).

2. ☒ The allowed claim(s) is/are <u>3-35</u>.

3. ☒ The drawings filed on <u>20 April 2001</u> are accepted by the Examiner.

4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some*   c)☐ None   of the:

        1. ☒ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
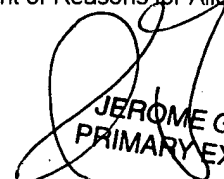
    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a)☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1)☐ hereto or 2)☐ to Paper No./Mail Date _____ .

    (b)☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

        Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 2/05

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 7-28-2005. 8-1-05

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

JEROME GRANT II
PRIMARY EXAMINER

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Robert Goodell on Aug. 1, 2005.

In the claims:

6.   (Currently Amended by the Examiner)   A color processing method used

for transforming an arbitrary input color signal in an input color space to a four-color signal

including a black component, the method comprising the steps of:

generating a first set of plural optimal K that satisfy a c o v e r a g e restriction

corresponding to plural representative color signals of the input color signal that belong to a

partial color space reproducible with three colors and a second set of plural optimal K

corresponding to plural representative color signals of the input color signal that belong to a

curved plane being reproducible with four colors including black and satisfying a coverage

restriction;

predicting an optimal K corresponding to the input color signal in the input color space based

on a model generated from plural pairs of the representative color signals in the input color space and

the first or second set of plural optimal K; and

predicting amounts of three colors except black from the predicted optimal K and the input

color signal to calculate the four-color signal including the black component,

8.   (Currently Amended by the Examiner) The color processing method according to claim 4,

wherein, in the case where K that is calculated by multiplying an achromatic K corresponding to one

of the representative color signals by a K control parameter corresponding to one of the

representative color signals satisfies the coverage restriction, the calculated K is used as the third set of

plural optimal K, and on the other hand, in the case where K that is calculated by multiplying an

achromatic K corresponding to the representative color signal by a K control parameter

corresponding to the representative color signal does not satisfy the coverage restriction, K that is

calculated by searching between the achromatic K corresponding to the representative color signal

and K that is calculated by multiplying an achromatic K corresponding to the representative color

signal by the K control parameter corresponding to the representative color signal is used as the third

set of plural optimal K.

9. (Currently Amended by the Examiner). The color processing method according

to claim 5, wherein, in the case where K that is calculated by multiplying an achromatic K

corresponding to the representative color signal by a K control parameter corresponding to the

representative color signal satisfies the **coverage restriction, the calculated K is used as the first**

set of plural optimal K, and on the other hand, in the case where K that is calculated by

multiplying an achromatic K corresponding to one of the representative color signal by a K

control parameter corresponding to the representative color signal does not satisfy the

coverage restriction IC that is calculated by searching between the achromatic K

corresponding to one of the representative color signal and K that is calculated by

multiplying the achromatic K corresponding to the representative color signals *by the* K

control parameter corresponding to the representative color signal is used as the first set of

plural optimal K.

11. (Currently Amended by the Examiner) The color processing method according to claim
3, wherein the curved plane

corresponding to the second set of plural optimal K is an outermost periphery surface of a
color
gamut that is reproducible with four colors including black and satisfies the coverage

restriction.

26. (Currently Amended by the Examiner)   A computer-readable recording medium that

stores a program that makes a computer execute the steps of:

generating a first set of plural optimal K corresponding to plural representative color

signals an   input color signal that belong to a partial color space reproducible with three

colors and a second set of plural optimal K corresponding to plural representative color

signals of the input color signal that belong to a curved plane being reproducible with four

colors including black and satisfying a coverage restriction; predicting an optimal K

corresponding to an input color signal in the input color space based on a model generated

from plural pairs of the representative color signals in the input color space and the first or

second set of plural optimal K; and predicting amounts of three colors except black from the

predicted optimal K and the input color signal to calculate the four-color signal including the

black component, wherein K is an amount of the black component.

29. (Currently Amended by the Examiner) A color processing apparatus used for

generating a four-color signal including a black component from an arbitrary input color

signal in an input color space, the apparatus comprising:

an optimal K calculation part that predicts an optimal K corresponding to a color
signal

in the input color space based on a model generated from plural pairs of a representative
color signal of the input color signal in the input color space and the optimal K corresponding
to the representative color signal; and

a four-color signal calculation part that predicts amounts of three colors

except black from the optimal K predicted by the optimal K calculation part and

the input color signal to thereby calculate a four-color signal including the black

component,

wherein the optimal K calculation part uses plural representative color signals

that belong to a partial color space that is a color gamut reproducible with three

colors and plural representative color signals that belong to a curved plane that is

reproducible with four colors including black and satisfies the coverage restriction,

and wherein K is an amount of the black component.

32. (Currently Amended by the Examiner) A color processing apparatus used for

generating a four-color signal including a black component, from an arbitrary input color

signal in a input color space, the apparatus comprising:

an optimal K calculation part that predicts am optimal K corresponding to the inprt

color signal in the input color space based on a model generated from plural pairs of a

representative color signal in the input color space and an optimal K corresponding to the

representative color signal; and

a four-color signal calculation part that predicts amounts of three colors except

black from the optimal K predicted by the optimal K calculation part and the input color

signal to thereby calculate a four-color signal including the black component,

wherein the optimal K calculation part uses plural representative color signals that

belong to a partial color space that is a color gamut reproducible with three colors and

satisfies the coverage restriction, and plural representative color signals that belong to a

curved plane that is reproducible with four colors including black and satisfies the coverage

restriction.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jerome Grant II whose telephone number is 571-272-

7463. The examiner can normally be reached on Mon.-Thurs. from 9:00 to 5:0.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Kimberly A. Williams, can be reached on 571-272-7471. The fax phone
number for the organization where this application or proceeding is assigned is 703-
872-9306.

Information regarding the status of an application may be obtained from the
Patent Application Information Retrieval (PAIR) system. Status information for
published applications may be obtained from either Private PAIR or Public PAIR.
Status information for unpublished applications is available through Private PAIR only.
For more information about the PAIR system, see http://pair-direct.uspto.gov. Should
you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).

J. Grant II

JEROME GRANT II
PRIMARY EXAMINER

Reasons for Allowance

1.   Claims 1 and 2 are cancelled.

2.   Claims 3-22 and 24-35 are allowed for the reasons set forth in the office action

mailed 11-17-2004.

3.   Claim 23 is allowed by reason of the persuasiveness of the argument present in

the first full paragraph of page 17 of the argument.

4.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jerome Grant II whose telephone number is 571-272-

7463. The examiner can normally be reached on Mon.-Fri. from 9:00 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kimberly A. Williams, can be reached on 571-272-7463. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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J/Grant II

JEROME GRANT II
PRIMARY EXAMINER